

Requested Patent: GB2266707A
Title: CASES FOR FLAT ARTICLES ;
Abstracted Patent: GB2266707 ;
Publication Date: 1993-11-10 ;
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Applicant(s): SANDERS MARK ANDREW (GB) ;
Application Number: GB19930009247 19930505 ;
Priority Number(s): GB19920009740 19920506 ;
IPC Classification: B65D85/57 ;
Equivalents: WO9322768 ;

ABSTRACT:

An integrally-moulded case of wallet-form for housing six "3 1/2-inch" diskettes (Figure 7) has flaps (1, 2) hinged to a spine (3). Four diskettes (14) are retained resiliently lying flat within recesses (13) that are defined inside the flaps (1, 2) between peripheral rims (11), dividing ribs (12) and two pairs of ribs (9, 10) that stand up from the spine (3). Two further diskettes (16) slot resiliently into the in-line sockets (17) defined by the pairs of ribs (9, 10) to be sandwiched between the diskettes (14) as the flaps (1, 2) are closed upon one another. An aligning pip (20) on each rim (11) engages a socket (21) on the other as the rims (11) come into face-to-face abutment and nest together at finger-lift cut-outs (15). The case is clipped closed by tongues (22) that engage with sockets (23) in the rims (11) of the flaps (1, 2).

(12) UK Patent Application (19) GB (11) 2 266 707 (13) A

(43) Date of A publication 10.11.1993

(21) Application No 9309247.6

(22) Date of filing 05.05.1993

(30) Priority data

(31) 9209740

(32) 06.05.1992

(33) GB

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(51) INT CL⁵

B65D 85/57

(52) UK CL (Edition L)

B8P PK5

U1S S2119

(56) Documents cited

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(58) Field of search

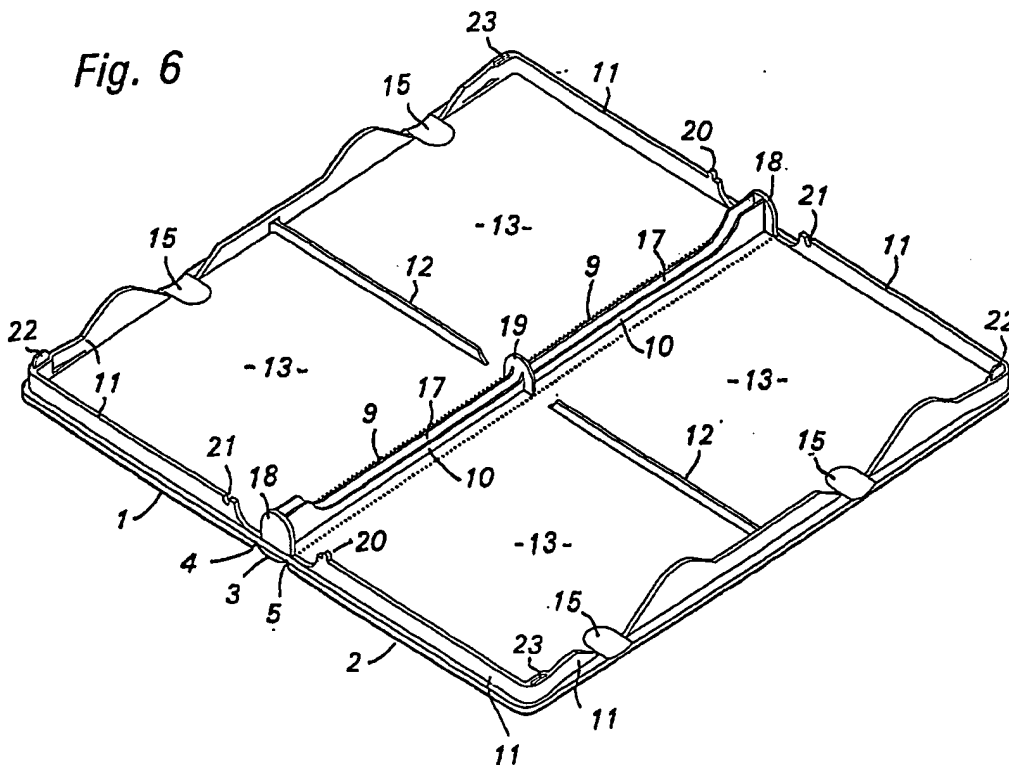
UK CL (Edition L) B8P PCX PE2B PE2C PE2G PE2X
PK5

INT CL⁵ B65D 25/10 85/02 85/30, G11B 23/02 33/04

(54) Cases for flat articles

(57) An integrally-moulded case of wallet-form e.g. for housing six "3 1/2-inch" diskettes, has flaps 1 and 2 hinged to a spine 3. Four diskettes are retained resiliently lying flat within recesses 13 that are defined inside the flaps 1 and 2 between peripheral rims 11, dividing ribs 12 and two pair of ribs 9 and 10 that stand up from the spine 3. Two further diskettes slot resiliently into the in-line sockets 17 defined by the pairs of ribs 9 and 10 to be sandwiched between the other diskettes as the flaps 1 and 2 are closed upon one another. An aligning pip 20 on each rim 11 engages a socket 21 on the other as the rims 11 come into face-to-face abutment and nest together at finger-lift cut-outs 15. The case is clipped closed by tongues 22 that engage with sockets 23 in the rims 11 of the flaps 1 and 2.

Fig. 6



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Fig. 1

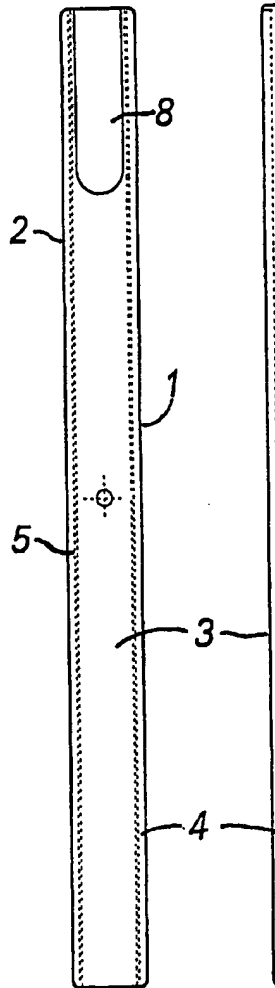


Fig. 2

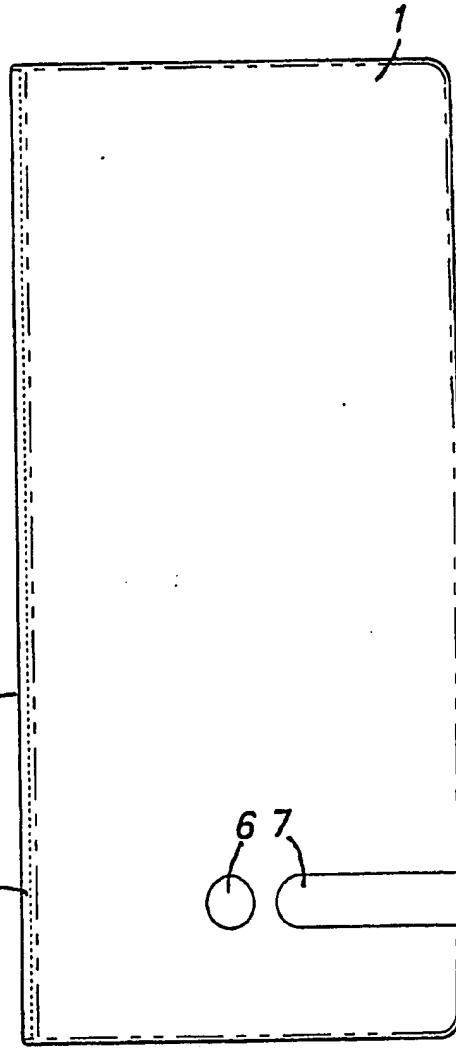


Fig. 3

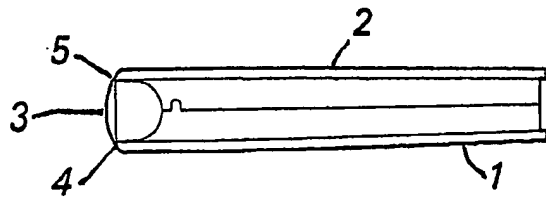
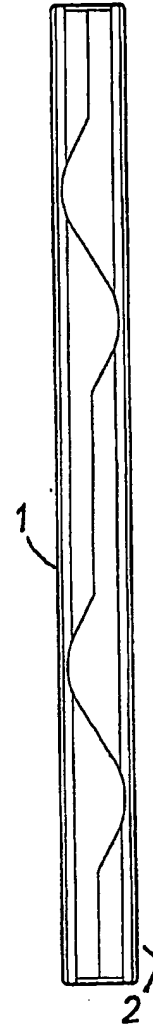


Fig. 4

Fig. 5

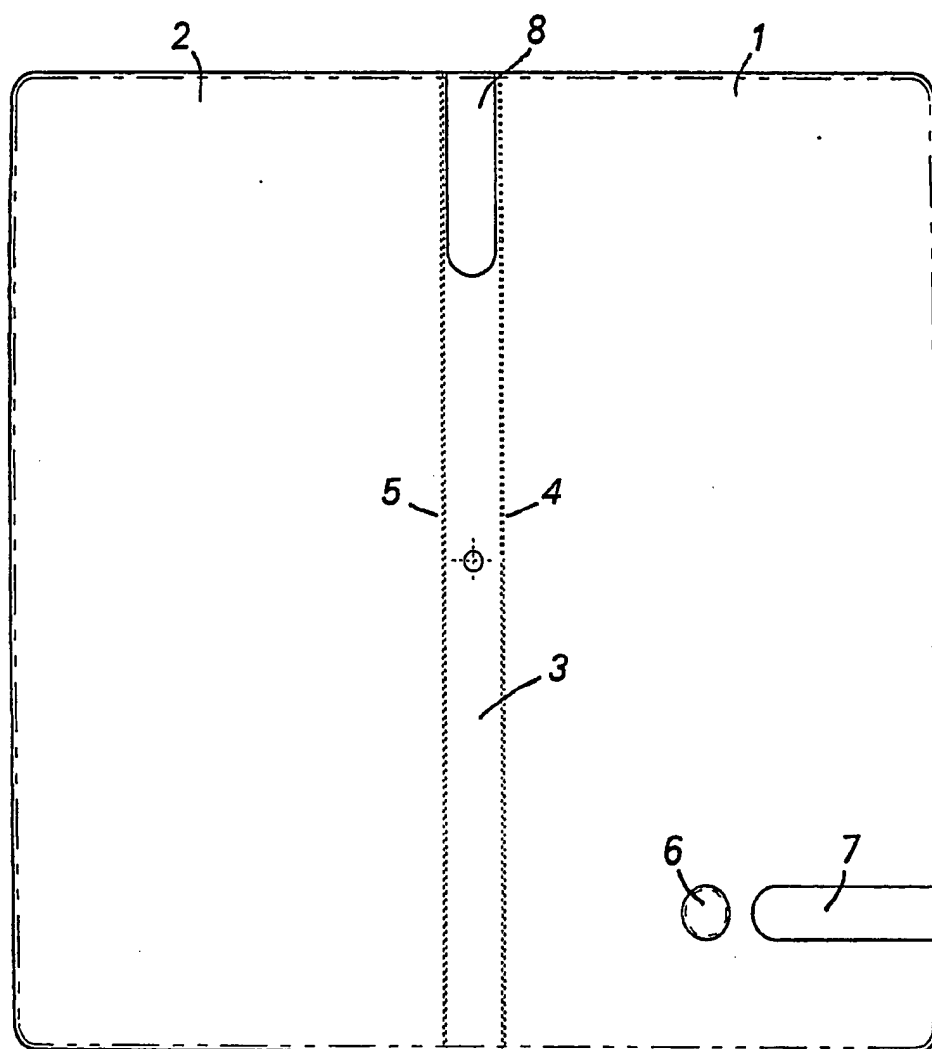
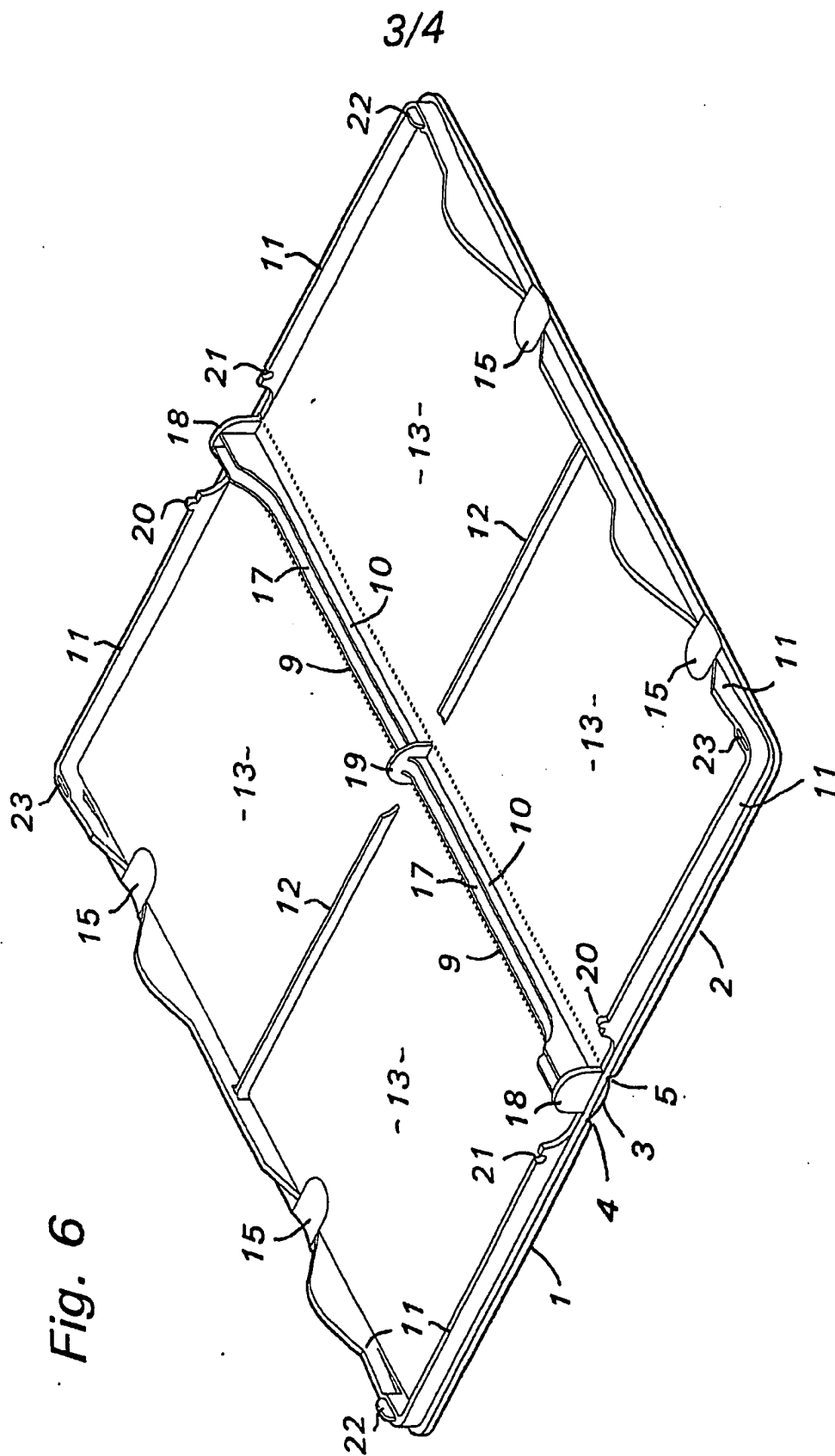


Fig. 6



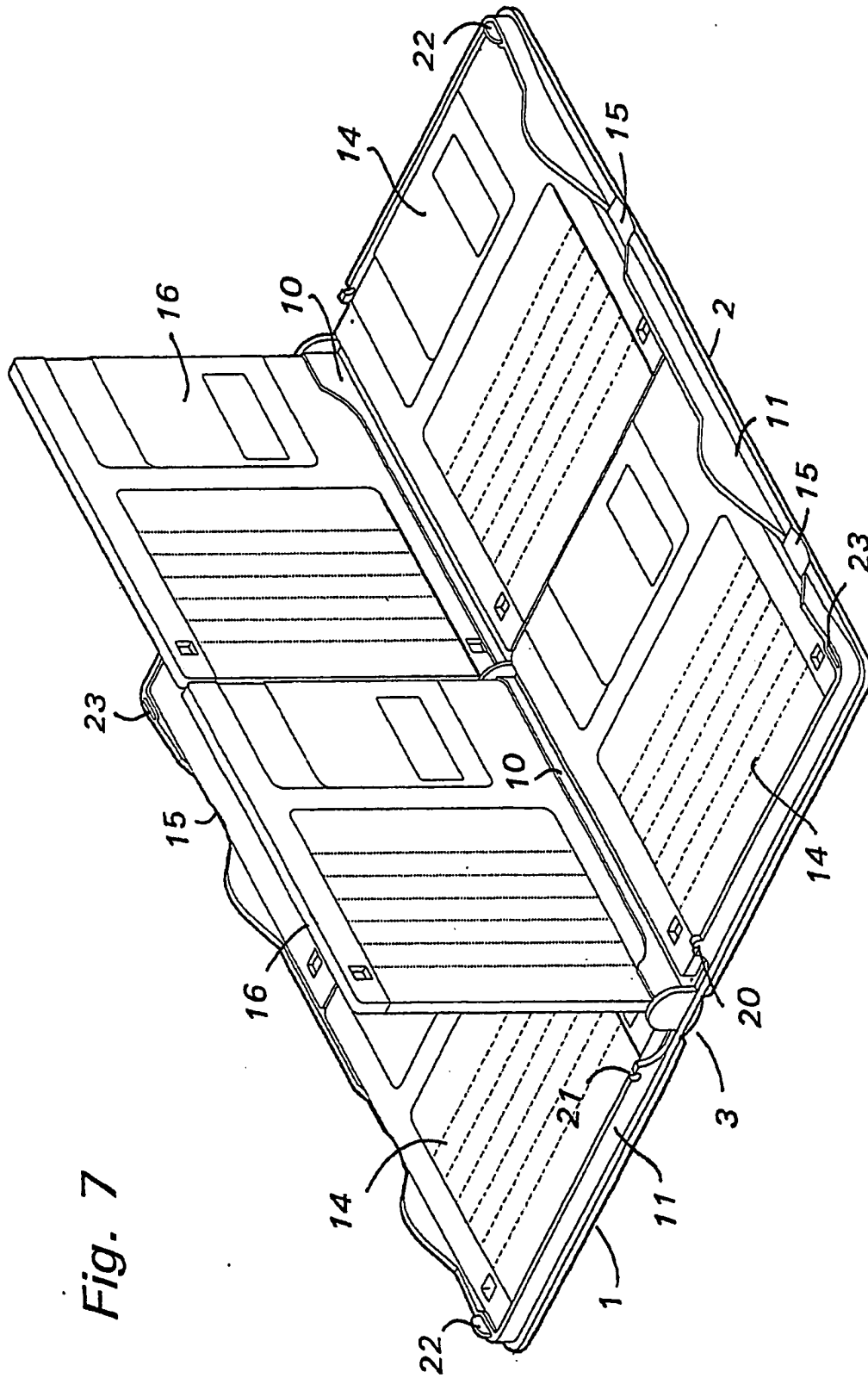


Fig. 7

Cases

5 This invention relates to cases, and is especially concerned with cases for containing generally-flat articles.

10 According to one aspect of the present invention a case for containing generally-flat articles has the form of a wallet with two flap-parts that are hinged to either side of an elongate spine-part for closing up onto one another in closing the case, and includes means on the inside of each flap-part for releasably retaining at least one of
15 the articles substantially flat with that flap-part, and means on the inside of the spine-part for releasably retaining at least one other of the articles upstanding from, and extending lengthwise of, the spine-part such as to be sandwiched between the articles carried by the
20 flap-parts when the case is closed.

The wallet-form of case of the present invention is of advantage for containing articles such as computer, data-storage diskettes in a compact, protected and easily-
25 handled form. This is particularly so in relation to standard "3½-inch" diskettes, since a case in accordance with the invention for containing up to six such diskettes can be readily provided within dimensions comparable with those of a diary or pocket book, enabling
30 it to be accommodated with ease within, for example, the inside pocket of a jacket, a hand-carried bag, or an envelope for mailing.

The case may be moulded in one piece with integral
35 hinges. The integral hinges may take the form of thin webs of the moulded material extending between the spine-

and flap-parts. The moulding may, in particular, be of polypropylene.

5 The article-retaining means provided on the inside of each flap-part may comprise abutments between which the relevant article or articles are a push or snap fit. More especially, the abutments may define one or more recesses inside each flap-part for receiving and resiliently retaining respective ones of the articles
10 laid flat therein.

The means for retaining the one or more articles upstanding on the inside of the spine-part, may involve one or more channels or sockets for receiving and
15 gripping edges of those articles resiliently. Where more than one article is to be retained in this way on the spine-part, separate channels or sockets for holding those articles in line with one another lengthwise of the spine-part, may be provided.

20 Each flap-part may have an upstanding rim that abuts the upstanding rim of the other face-to-face when the two flap-parts are closed up on one another. More particularly, where the flap-parts are of the same
25 substantially-rectangular shape as one another, and each is hinged to the spine-part along one of the sides of the rectangle, each flap-part may have an upstanding peripheral rim that extends throughout the three other sides; the rim of each flap-part may in these
30 circumstances provide face-to-face abutment with the rim of the other flap-part throughout substantially the full extent of the three sides, when the case is closed. Provision may also be made for aligning the flap-parts with one another as they are closed up on one another, so
35 as to ensure positively that the rims come into abutment when the case is closed; this may involve the interengagement, for example near the spine-part, of a

projection of one rim, or of each rim, with a socket of the other.

5 One or more selectively-releasable clips may be provided for holding the case closed, and each such clip may comprise a tongue that projects from the inside of one flap-part to engage resiliently in a socket of the other flap-part.

10 According to another aspect of the present invention, a case for containing data-storage diskettes has the form of a wallet with two flap-parts that are hinged to either side of an elongate spine-part for closing up onto one another in closing the case, and includes a plurality of
15 channels or sockets on the inside of the spine-part for releasably retaining the diskettes upstanding from, and extending lengthwise of, the spine-part such as to be sandwiched between the flap-parts when the case is closed.

20

A case of wallet-form for containing data-storage diskettes, according to the present invention, will now be described, by way of example, with reference to the accompanying drawings, in which:

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Figures 1 to 4 show the case when closed, in, respectively, elevation from one side, front elevation, elevation from the other side, and in plan;

30

Figure 5 shows the case when fully open, in elevation from the back;

Figure 6 is an isometric view of the inside of the empty case when fully open; and

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Figure 7 corresponds to Figure 6 showing the open case fully loaded with data-storage diskettes.

The case to be described is of a moulded construction of resilient plastics material, and is for containing six standard "3½-inch" data-storage diskettes (each measuring some 94 mm in length and 90 mm in width) in a compact and easily-handled and -transportable form that affords them protection. More particularly, the case is rectangular having a length of about 193 mm, and, when closed, a width of about 95 mm and a maximum depth of about 15 mm, making it comparable in size and shape with a diary or pocket book. The case, in this respect, can be readily accommodated within the inside pocket of a jacket, within a hand-carried bag, or within a mailing envelope.

Referring to Figures 1 to 6, two rectangular flaps 1 and 2 forming front and back covers respectively of the case, are hinged throughout their length to opposite sides of an elongate spine 3. The hinges 4 and 5 effective in this latter respect, allow the flaps 1 and 2 to be closed up on one another (illustrated in Figures 1 to 4) from a fully opened-out condition (illustrated in Figures 5 and 6), so as to close the case and totally enclose its contents. The nature of the contents may be indicated on the outside of the case by labelling within recesses 6 and 7 on the outside of the front-cover flap 1, and a recess 8 on the outside of the spine 3.

Inside the case, two pairs of spaced ribs 9 and 10 extend end to end along the length of the spine 3, the ribs 9 and 10 of both pairs standing up from the spine 3 within and an upstanding peripheral rim 11 that extends along the three, free sides of each flap 1 and 2. The area of the inside of each flap 1 and 2 bounded by its rim 11 and the adjacent rib 9 or 10 is divided in two by an upstanding rib 12 that extends widthwise of the flap. The two rectangular recesses 13 that are thereby defined on the inside of each flap 1 and 2 between the rim 11 on two sides and the ribs 9 or 10 and 12 on the other two

sides, are dimensioned to receive respective "3½-inch" diskettes laid flat, in close fit. The two recesses 13 provided inside each flap 1 and 2, thus enable four diskettes to be retained within the case on the flaps 1 and 2.

Referring now also to Figure 7, the four diskettes 14 are retained in the case inside the flaps 1 and 2 with each diskette 14 lying flat and lengthwise of the flap-length within its respective recess 13. The diskettes 14 are held there simply as a push or snap fit against the resilience of the bounding rib 9 or 10, rib 12 and rim 11. Cut-outs 15 that break through the rim 11 into the two recesses 13 along the longer, free side of each flap 1 and 2, enable the diskettes 14 retained in the recesses 13 to be levered out by finger or thumb when they are to be removed from the case for use.

Two further "3½-inch" diskettes 16 can be retained within the case, with both standing up from, and extending lengthwise of, the spine 3. In this respect, the two pairs of spaced ribs 9 and 10 define respectively two in-line channels or sockets 17 that are of a width to receive longitudinal edges of the diskettes 16 in close fit. The lengths of the sockets 17, each defined between one of two end-facings 18 and a central stop 19, are just sufficient to accommodate the longitudinal edges of the diskettes 16 tightly. The diskettes 16 are pushed into the sockets 17 against the resilience of the ribs 9 and 10 to be retained in push or snap fit standing upright from the spine 3. Withdrawal of the diskettes 16 from the case for use, simply involves pulling them free from the sockets 17.

The case is closed by folding the flaps 1 and 2 up towards one another about their hinges 4 and 5 to sandwich the diskettes 16 between the two pairs of

diskettes 14 retained inside the flaps 1 and 2. As the flaps 1 and 2 are moved towards one another, a pip 20 on each rim 11 near the spine 3, engages in a socket 21 of the other; this engagement facilitates alignment of the flaps 1 and 2 with one another as they close up onto one another over the diskettes 16. More particularly, the alignment brings the rim 11 of each flap 1 and 2 into face-to-face abutment with the rim 11 of the other. The rims 11 have complementary partly-serpentine profiles along the longer, free sides of the flaps 1 and 2 to facilitate the nesting of each within the cut-out 15 of the other; this enhance the tightness with which the two flaps 1 and 2 close together.

As the case is closed, a tongue 22 that projects from the rim 11 of each flap 1 and 2 enters a socket 23 in the rim 11 of the other. Each tongue 22 is a tight push-fit within its socket 23, and the tongue-and-socket engagements established, clip the flaps 1 and 2 together to retain them in the closed condition. The case can be opened to remove the enclosed diskettes 14 and 16, simply by hinging the flaps 1 backwards from one another after prising them apart to break the tongue-and-socket engagements.

The case is moulded of polypropylene in one piece in the open configuration. The hinges 4 and 5 are formed integrally in the moulding, each hinge 4 and 5 being created as a thin web of the moulded material extending between the spine 3 and the respective flap 1 and 2. A strong, yet easy-action, hinge is established along the webs by flexing the flaps 1 and 2 on the spine 3 while the product is still warm after ejection from the mould during manufacture; the flexing brings to completion in the hinges 4 and 5 the favourable molecular orientation that arises from the flow of molten material through the web-creating constrictions of the mould.

Although the case of the present invention has been described above in the context of containing six data-storage diskettes, more may be accommodated. In this respect, more than two channels or sockets such as the channels or sockets 17, may be provided on the spine 3. The additional channels or sockets may be located alongside the sockets 17, so that with two sockets added in this way, four diskettes can be accommodated standing upright from the spine 3 in pairs, side by side with one another. With more channels or sockets added alongside these, the number of diskettes accommodated standing upright from the spine can be increased further from four, to six, to eight, or to even more.

The addition of further channels or sockets to the spine brings with it a necessity for increase in spine-width and a consequent increase in overall thickness of the case. If, in order to keep the case-thickness to a minimum, the diskettes are tightly packed together in the array on the spine, it may become difficult where three or more diskettes stand side-by-side, to withdraw the inner diskettes of the array individually without first removing those on either side of it. This difficulty may be overcome by providing longitudinal hinging within the spine between the sockets; access to the inner diskettes of the array can then be readily achieved simply by pushing the flaps 1 and 2 further open so that the spine hinges back on itself to fan out the diskettes within their side-by-side relationship.

The present invention is also readily applicable to the provision of cases for containing other generally-flat articles, such as, for example, CD (compact disk) records and CD-ROM disks.

Claims:

1. A case for containing generally-flat articles which has the form of a wallet with two flap-parts that are hinged to either side of an elongate spine-part for closing up onto one another in closing the case, and which includes means on the inside of each flap-part for releasably retaining at least one of the articles substantially flat with that flap-part, and means on the inside of the spine-part for releasably retaining at least one other of the articles upstanding from, and extending lengthwise of, the spine-part such as to be sandwiched between the articles carried by the flap-parts when the case is closed.
2. A case according to Claim 1, moulded in one piece with integral hinges for hinging the flap-parts to the spine-part.
3. A case according to Claim 2 wherein the integral hinges are thin webs of the moulded material extending between the spine- and flap-parts.
4. A case according to Claim 2 or Claim 3 wherein the moulding is of polypropylene.
5. A case according to any one of Claims 1 to 4 wherein the article-retaining means provided on the inside of each flap-part comprises abutments between which the relevant article or articles are a push or snap fit.
6. A case according to Claim 5 wherein the abutments define one or more recesses inside each flap-part for receiving and resiliently retaining respective ones of the articles laid flat therein.

7. A case according to any one of Claims 1 to 6 wherein the means for retaining the one or more articles upstanding on the inside of the spine-part, involves one or more channels or sockets for receiving and gripping edges of those articles resiliently.

8. A case according to Claim 7 including a plurality of said channels or sockets for holding respective ones of the articles in line with one another lengthwise of the spine-part.

9. A case according to any one of Claim 1 to 8 wherein each flap-part has an upstanding rim that abuts the upstanding rim of the other face-to-face when the two flap-parts are closed up on one another.

10. A case according to Claim 9 wherein the flap-parts are of the same substantially-rectangular shape as one another, each flap-part is hinged to the spine-part along one of the sides of the rectangle and has an upstanding peripheral rim that extends throughout the three other sides, and the rim of each flap-part provides face-to-face abutment with the rim of the other flap-part throughout substantially the full extent of the three sides, when the case is closed.

11. A case according to Claim 10, including means for aligning the flap-parts with one another as they are closed up on one another, so as to ensure positively that the rims come into said abutment when the case is closed.

12. A case according to Claim 11 wherein the means for aligning the flap-parts with one another as they are closed up on one another, involves interengagement of a projection of one rim, or of each rim, with a socket of the other.

13. A case according to any one of Claims 1 to 12 including one or more selectively-releasable clips for holding the case closed.

14. A case according to Claim 13 wherein each clip comprises a tongue that projects from the inside of one flap-part to engage resiliently in a socket of the other flap-part.

15. A case according to any one of Claims 1 to 14 for containing at least three computer, data-storage diskettes.

16. A case for containing data-storage diskettes which has the form of a wallet with two flap-parts that are hinged to either side of an elongate spine-part for closing up onto one another in closing the case, and which includes a plurality of channels or sockets on the inside of the spine-part for releasably retaining the diskettes upstanding from, and extending lengthwise of, the spine-part such as to be sandwiched between the flap-parts when the case is closed.

17. A case of wallet-form, substantially as hereinbefore described with reference to the accompanying drawings.

Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

Application number

GB 9309247.6

Relevant Technical fields

(i) UK Cl (Edition L) B8P (PCX, PE2B, PE2C, PE2G, PE2X, PK5)

(ii) Int Cl (Edition 5) B65D 25/10; 85/02; 85/30;
G11B 23/02; 33/04

Search Examiner

MIKE HENDERSON

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

10 JUNE 1993

Documents considered relevant following a search in respect of claims 1 - 17

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2154550 A (MARDON ILLINGWORTH LTD (UK)) WHOLE SPECIFICATION RELEVANT	1-4, 7, 9-11, 16
X	US 4823950 (ROZE) WHOLE SPECIFICATION RELEVANT	1, 5-8, 15, 16
X	US 4598822 (HEMMINGS) WHOLE SPECIFICATION RELEVANT	1-4, 7-11, 16
X	US 4225041 (LORENZINI) WHOLE SPECIFICATION RELEVANT	1-4, 7-13, 16

Category	Identity of document and relevant passages	Relevant to claim(s)

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